

Listing of Claims

1. (Previously Presented) An immunogenic complex comprising a negatively charged organic complex and a charged antigen, which organic complex and antigen are electrostatically associated, wherein the organic complex comprises a saponin and a sterol, and wherein the charged antigen comprises one or more polypeptides from a region of Hepatitis C Virus (HCV), selected from the group consisting of Core, E1, E2, NS3, NS4a, NS4b, NS5a and NS5b, and wherein said immunogenic complex is not an oil-in-water emulsion and does not include alum.

2-43. (Cancelled)

44. (Previously Presented) The immunogenic complex according to claim 1 wherein said charged antigen is a fusion protein comprising said HCV polypeptide.

45. (Previously Presented) The immunogenic complex according to claim 1 wherein said polypeptide is the core protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

46. (Previously Presented) The immunogenic complex according to claim 1 wherein said organic complex is an adjuvant.

47. (Previously Presented) The immunogenic complex according to claim 46 wherein said adjuvant is a saponin complex.

48. (Previously Presented) The immunogenic complex according to claim 47 wherein said saponin complex is an immunostimulating complex comprising saponin and cholesterol.

49. (Previously Presented) The immunogenic complex according to claim 1 wherein said organic complex is a naturally negatively charged adjuvant.

50. (Previously Presented) The immunogenic complex according to claim 1 wherein said organic complex has been modified to increase the degree of its negative charge.

51. (Previously Presented) The immunogenic complex according to claim 50 wherein said organic complex comprises a phospholipid to increase the negative charge thereof.

52. (Previously Presented) The immunogenic complex according to claim 51 wherein said phospholipid is a phosphoglyceride.

53. (Previously Presented) The immunogenic complex according to claim 52 wherein the phosphoglyceride is selected from the group consisting of phosphatidyl inositol, phosphatidyl glycerol, phosphatidic acid and cardiolipin.

54. (Previously Presented) The immunogenic complex according to claim 51 wherein said phospholipid is lipid A.

55. (Previously Presented) The immunogenic complex according to claim 54 wherein the lipid A is selected from the group consisting of diphosphoryl lipid A and monophosphoryl lipid A.

56. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the E1 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

57. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the E2 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

58. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the NS3 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

59. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the NS4a protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

60. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the NS4b protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

61. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the NS5a protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

62. (Withdrawn) The immunogenic complex according to claim 1 wherein said polypeptide is the NS5b protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

63. (Previously Presented) The immunogenic complex according to claim 1 wherein said complex induces a cytotoxic T-lymphocyte response.

64. (Previously Presented) A composition comprising an immunogenic complex comprising a negatively charged organic complex and a charged antigen, which organic complex and antigen are electrostatically associated, wherein the organic complex comprises a saponin and a sterol, and wherein the charged antigen comprises one or more Hepatitis C Virus (HCV) polypeptides, and wherein said immunogenic complex is not an oil-in-water emulsion and does not include alum, together with one or more pharmaceutically acceptable carriers and/or diluents.

65. (Previously Presented) The composition according to claim 64 wherein said charged antigen is a fusion protein comprising said HCV polypeptide.

66. (Previously Presented) The composition according to claim 64 wherein said polypeptide is the core protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

67. (Previously Presented) The composition according to claim 64 wherein said organic complex is an adjuvant.

68. (Previously Presented) The composition according to claim 67 wherein said adjuvant is a saponin complex.

69. (Previously Presented) The composition according to claim 68 wherein said saponin complex is an immunostimulating complex comprising saponin and cholesterol.

70. (Previously Presented) The composition according to claim 64 wherein said organic complex is a naturally negatively charged adjuvant.

71. (Previously Presented) The composition according to claim 64 wherein said organic complex has been modified to increase the degree of its negative charge.

72. (Previously Presented) The composition according to claim 71 wherein said organic complex comprises a phospholipid to increase the negative charge thereof.

73. (Previously Presented) The composition according to claim 72 wherein said phospholipid is a phosphoglyceride.

74. (Previously Presented) The composition according to claim 73 wherein the phosphoglyceride is selected from the group consisting of phosphatidyl inositol, phosphatidyl glycerol, phosphatidic acid and cardiolipin.

75. (Previously Presented) The composition according to claim 72 wherein said phospholipid is lipid A.

76. (Previously Presented) The composition according to claim 75 wherein the lipid A is selected from the group consisting of diphosphoryl lipid A and monophosphoryl lipid A.

77. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the E1 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

78. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the E2 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

79. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the NS3 protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

80. (Withdrawn) The composition according to claim 64 wherein said polypeptide is NS4a protein or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

81. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the NS4b protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

82. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the NS5a protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

83. (Withdrawn) The composition according to claim 64 wherein said polypeptide is the NS5b protein of HCV, or a fragment thereof of at least 10 contiguous amino acid residues that defines at least one T-cell epitope of the HCV polypeptide.

84. (Previously Presented) The composition according to claim 64 further comprising an additional HCV protein, wherein said additional HCV protein is selected from the group consisting of a nonstructural protein, the E1 envelope protein, the E2 envelope protein, and an immunogenic fragment of any one of these proteins.

85. (Previously Presented) The composition according to claim 64 wherein said composition induces a cytotoxic T-lymphocyte response.

86. (Withdrawn) A method of eliciting, inducing or otherwise facilitating, in a mammal, an immune response to an antigen, said method comprising administering to said mammal an effective amount of an immunogenic complex according to claim 1.

87. (Withdrawn) The method according to claim 86 wherein said immune response comprises a cytotoxic T-lymphocyte response.

88. (Withdrawn) A method of eliciting, inducing or otherwise facilitating, in a mammal, an immune response to an antigen, said method comprising administering to said mammal an effective amount of a vaccine composition according to claim 64.

89. (Withdrawn) The method according to claim 88 wherein said immune response comprises a cytotoxic T-lymphocyte response.

90. (Withdrawn) A method of treating a disease condition in a mammal said method comprising administering to said mammal an effective amount of an immunogenic complex according to claim 1 wherein administering said complex elicits, induces or otherwise facilitates an immune response which inhibits, halts, delays or prevents the onset or progression of said disease condition.

91. (Withdrawn) The method according to claim 90 wherein said immune response comprises a cytotoxic T-lymphocyte response.

92. (Withdrawn) The method according to claim 90 wherein said treatment is therapeutic treatment of said disease condition.

93. (Withdrawn) The method according to claim 90 wherein said treatment is prophylactic treatment of said condition.

94. (Withdrawn) The method according to claim 90 wherein said disease condition results from an HCV infection.

95. (Withdrawn) A method of treating a disease condition in a mammal said method comprising administering to said mammal an effective amount of a vaccine composition according to claim 64 wherein administering said composition elicits, induces or otherwise facilitates an immune response which inhibits, halts, delays or prevents the onset or progression of the disease condition.

96. (Withdrawn) The method according to claim 95 wherein said immune response comprises a cytotoxic T-lymphocyte response.

97. (Withdrawn) The method according to claim 95 wherein said treatment is therapeutic treatment of said disease condition.

98. (Withdrawn) The method according to claim 95 wherein said treatment is prophylactic treatment of said disease condition.

99. (Withdrawn) The method according to claim 95 wherein said disease results from an HCV infection.